REMARKS

Favorable reconsideration and allowance of the present application are respectfully requested in view of the foregoing amendments and the following remarks.

Currently, claims 1-6, 8-38, and 49-55, including independent claims 1, 27, and 35, are pending in the present application. Claims 1, 25, 27, 29, 34-35, 38, and 49-51 are being amended in this paper so that the claims point out more particularly that the "solution" referred to throughout all of the claims is the "released solution" that is released from the substrate during use of the wiper in food service applications.

Independent claim 1, for instance, is directed to a wiper comprising a substrate and a sanitizing formulation applied thereto in an amount from about 150% to about 600% of the dry weight of the wiper. The sanitizing formulation comprises water and a surfactant component that consists essentially of one or more nonionic surfactants. The sanitizing formulation in claim 1 further comprises an antimicrobial agent that includes a quaternary ammonium compound, wherein the antimicrobial agent comprises up to about 1% by weight of the sanitizing formulation. The sanitizing formulation is also configured so that the formulation is released from the substrate as a solution during use of the wiper in food service applications. The quaternary ammonium compound is present within the released solution in an amount less than about 2000 parts per million of the released solution, and the wiper exhibits a log reduction for *E. Coli* of at least about 2.

In the Office Action, independent claims 1, 27, and 35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Pub. No. 2002/0103098 to Harrison, et al. Harrison, et al. is directed to an aqueous cleaning

composition useful in removing dirt and grime from surfaces, such as glazed ceramic tiles, polished metals, enameled metal surfaces, and glazed porcelain. [0002]. As noted at paragraphs [0005] – [0009], the aqueous cleaning composition of Harrison, et al. contains the following constituents: (A) quaternary ammonium surfactant compound having germicidal properties; (B) surfactant system which includes at least one amine oxide surfactant, and at least one further surfactant selected from carboxylates and N-acyl amino acid surfactants, especially sarcosinates; (C) solvent system containing an alkylene glycol ether solvent further with a C_1-C_6 alcohol, especially where the C_1-C_6 alcohol is isopropanol; (D) alkalizing agent such as an alkanolamide, especially an alkylamine; and (E) water.

Harrison, et al. primarily focuses on providing its cleaning/disinfecting composition as a ready to use product in a manually operated spray dispensing container so that its composition is ideally suited for use in a consumer "spray and wipe" application. See [0054], [0089], and Examples 1-4. Only at paragraphs [0091]-[0094] does Harrison, et al. even cursorily introduce the concept of absorbing its cleaning/disinfecting composition onto a wipe to form a saturated wipe for use on an "as-needed" basis.

Applicants respectfully submit that independent claims 1, 27, and 35 patentably define over Harrison, et al. for several reasons. First, all of Applicants' claims recite a wiper comprising a substrate and a sanitizing formulation, wherein the sanitizing formulation is configured so that it is *released from the substrate as a solution* during use of the wiper in food service applications. Even more particularly, all of Applicants' claims require the quaternary ammonium compound of the sanitizing formulation to be

present *within this released solution* in an amount less than about 2000 parts per million of the released solution. Applicants respectfully submit that these features of the presently claimed wiper are not disclosed—or even contemplated—by the disclosure of Harrison, et al.

At pages 5-6, the Office Action stated that "the use of less than 2000 parts per million of quaternary compound would be a result of optimization" and that the "final product of Harrison is the same as the product of the Applicant." Applicants respectfully disagree.

With regard to any sort of "wiper," Harrison, et al. provides only enough information to tell one of ordinary skill in the art (1) that Harrison, et al.'s cleaning compositions "can also be applied to a hard surface by using a wet wipe," and (2) that the compositions can be "absorbed onto the wipe to form a saturated wipe." *Nowhere* does Harrison, et al. recognize that it may be beneficial to know the *contents* of the solution the wiper is releasing—more particularly, to *know, and to control*, the quaternary ammonium compound content within that released solution.

Applicants' specification describes that conventionally, it was difficult to form food service wipers that released only a small amount of an antimicrobial agent, and yet still achieved the desired antimicrobial kill. (Appl., p. 1). For example, certain antimicrobial agents (e.g., quaternary ammonium compounds) are readily adsorbed by the polar fibers of many wipers. When adsorbed in this manner, they become bound to the polar fibers and thus generally less effective in killing bacteria present on a wiping surface.

The present inventors have discovered, however, that this adsorption phenomenon may be controlled by selectively configuring (1) the components of the

sanitizing formulation, (2) the relative amounts of those components, and (3) the add-on level, all based on (4) the nature of the substrate material(s) making up the wiper. As a result, a greater portion of the antimicrobial agent remains unbound and free to interact with bacteria on the wiping surface. Through optimization of antimicrobial efficacy, smaller concentrations of antimicrobial agent may be utilized, which in turn leads to smaller amounts of the antimicrobial agent in the released solution. The combination of a low concentration of released antimicrobial agent is particularly important in food service applications, in which it is desired to minimize the likelihood that the antimicrobial agent will become present in large amounts in food that later contacts the wiped surface. (Appl., pp. 12-13).

In short, Harrison, et al. completely fails to recognize the unique aspects provided by the wipers claimed in the present application. What Applicants have found is that by making a wiper with a specific combination of features (e.g., certain components in the sanitizing formulation, certain relative amounts of those components, certain add-on levels, etc.), Applicants can obtain a wiper that releases a solution containing a relatively small amount—e.g., less than 2000 parts per million—of quaternary ammonium compound when the wiper is used in food service applications, while at the same time attaining a high log reduction for *E. coli*.

It is difficult to see how this unique combination of features of Applicants' claimed wiper, which is designed to be particularly useful in food service applications, could be "inherent in" a description of Harrison, et al.'s cleaning compositions, (1) wherein the relative amounts of the components of the cleaning composition are only given for applications that contemplate the composition being used "as-is" and not in a wiper, (2)

wherein no add-on level is given for applying a sanitizing formulation onto a substrate for forming a wiper; and (3) wherein any testing that *is* performed to determine the antimicrobial efficacy of the cleaning compositions is specifically done using test procedures designed for "non-food contact surfaces." Thus, Applicants respectfully submit that independent claims 1, 27, and 35 patentably define over Harrison ,et al. for at least the reason that Harrison, et al. does not teach or in any way suggest a wiper in which (1) the sanitizing formulation is configured so that it is released from the substrate as a solution during use of the wiper in food service applications, (2) the quaternary ammonium compound from the sanitizing formulation is present *within the released solution* in an amount less than about 2000 parts per million of the released solution, and (3) the wiper exhibits a log reduction for *E. coli* of at least about 2.

In addition, Harrison, et al. fails to disclose other aspects of independent claims 1, 27, and 35. For example, as noted above, Harrison, et al. expressly requires that the cleaning composition contain (i) at least one amine oxide surfactant and (ii) at least one further surfactant selected from carboxylates and N-acyl amino acid surfactants. [0006]. As is well known in the art, the carboxylate and N-acyl amino acid surfactants of Harrison, et al. are "anionic" surfactants. (See e.g., Appl., pp. 22-23). To the contrary, the sanitizing formulation recited in all three independent claims comprises a surfactant component that consists essentially of one or more nonionic surfactants. Thus, the claims specifically exclude the presence of the anionic surfactants of Harrison, et al.

Excluding such "anionic" surfactants imparts a variety of benefits to the sanitizing formulation of Applicants' claimed invention. For example, "anionic" surfactants can cause "cationic" antimicrobial agents (e.g., quaternary ammonium compounds) to

undesirably precipitate out of solution. To avoid precipitation, a formulation containing such "anionic" surfactants would thus likely require additional components to dissolve the precipitate. In turn, such may undesirably affect the amount of quaternary ammonium compound that is present within the solution that is released upon using the wiper in food service applications and/or may undesirably affect the log reduction for *E. coli* exhibited by the claimed wiper.

Applicants emphasize that the claimed invention must be considered as a whole in conducting an analysis under 35 U.S.C. § 103. In the present case, Harrison, et al. fails to disclose multiple aspects of Applicants' independent claims, including, for example, a surfactant component consisting essentially of one or more nonionic surfactants as well as a quaternary ammonium compound present in an amount less than about 2000 parts per million of the solution that is released upon using the wiper in food service applications. When properly considered as a whole and in conjunction with the other limitations of the present claims, there is simply no motivation to modify Harrison, et al. in an attempt to render obvious independent claims 1, 27, and 35. Thus, for at least the reasons set forth above, Applicants respectfully submit that independent claims 1, 27, and 35 patentably define over Harrison, et al.

In the Office Action, independent claim 1 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,656,456 to Dodd, et al. Dodd, et al. is directed to "skin deodorizing compositions," more particularly, aqueous gel compositions that comprise an odor controlling agent for deodorizing skin surfaces. The skin deodorizing gel compositions of Dodd, et al. typically include an odor controlling agent such as a cyclodextrin, a sanitizing agent such as an alcohol antiseptic or an

antimicrobial, a thickener, an emollient, a perfume, and water. Dodd, et al. only cursorily mentions, at the paragraph bridging columns 24 and 25, that its compositions can be incorporated into an insoluble substrate for application to a user's skin, such as in the form of a treated wipe.

However, Dodd, et al. does not disclose or suggest a wiper according to claim 1, wherein a sanitizing formulation is applied to a substrate in an amount from about 150% to about 600%. Nor does Dodd, et al. disclose or suggest a sanitizing formulation that includes a surfactant component that "consists essentially of" on or more nonionic surfactants (note how in columns 16-19, a surfactant is merely optional in Dodd, et al.'s skin deodorizing gels and need not specifically contain a nonionic surfactant). Additionally, Dodd, et al. does not disclose or suggest a wiper, wherein the wiper's sanitizing formulation is configured so that the formulation is released from the substrate as a solution during use of the wiper in food service applications, and wherein a quaternary ammonium compound is present within the released solution in an amount less than about 2000 parts per million of that released solution.

Looking at Dodd, et al. as a whole, as is required with any inquiry under 35 U.S.C. § 103, it is clear that Dodd, et al. does not teach—or even contemplate—the wiper presently claimed by Applicants wherein the wiper is specifically designed to be effective in food service applications by releasing a solution that contains a relatively small amount of quaternary ammonium compound *while at the same time* having a high antimicrobial efficacy, e.g., exhibiting a log reduction for *E. coli* of at least 2. For at least these reasons, then, Applicants respectfully submit that independent claim 1 patentably

defines over Dodd, et al., which is wholly centered around "skin deodorizing compositions" and ways in which a user can control the odor on human skin.

The dependent claims were also rejected under one or both of the above-discussed references. Applicants respectfully submit that at least for the reasons indicated above relating to independent claims 1, 27, and 35, dependent claims 2-6, 8-26, 28-34, 36-38, and 49-55 patentably define over the reference(s) cited. However, Applicants also note that the patentability of dependent claims 2-6, 8-26, 28-34, 36-38, and 49-55 does not necessarily hinge on the patentability of independent claims 1, 27, and 35. In particular, some or all of the dependent claims are believed to possess features that are independently patentable, regardless of the patentability of claims 1, 27, and 35.

As such, for at least the reasons set forth above, Applicants respectfully submit that the present claims patentably define over all of the prior art of record. It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Boyd is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this Amendment.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.

Jason W. Johnston
Registration No.: 45,675

Tara E. Agnew
Registration No.: 50,589

DORITY & MANNING, P.A.
P.O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342

Date: March 11, 2005